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ABSTRACT

This study reports and compares patron usage rates from January 1987 to May 1988 for three separate ERIC database systems at the library at Texas Woman's University (TWU): (1) online searches of the ERIC file through the mainframe computers of DIALOG Information Services (DIALOG ERIC), which are offered in the library reference department by trained search specialists to patrons for a fee; (2) TWU-ERIC, an online system based on the university mainframe computer, which is offered to patrons to perform their own searches without a fee; and (3) SilverPlatter ERIC, a laser-based CD-ROM version of the ERIC file (CD-ROM ERIC), which is also provided to patrons to perform their own searches without a fee. A table displays statistics describing the usage rates for each of the three systems. It is concluded that CD-ROM ERIC contributed significantly to a marked decline of both DIALOG ERIC and TWU-ERIC searches because patrons preferred cost-free searching, user-friendly search software, and accessibility to search equipment. Analyses of the costs of the three systems indicate that CD-ROM ERIC, as well as being the system preferred by most users and staff, is also the least expensive to provide. (CGD)

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USAGE RATES AMONG TWU-ERIC AND OTHER ERIC BIBLIOGRAPHIC SYSTEMS ON THE TEXAS WOMAN'S UNIVERSITY DENTON CAMPUS

Patron usage rates are compared for three separate ERIC database systems available on the Denton campus of Texas Woman's University from January 1987 through May 1988, with special focus on the locally produced **TWU-ERIC** system.

From January 1987 to May 1988, for these seventeen months, two unique computer-based or database versions of the ERIC bibliographic file of records existed on the TWU campus. One of these versions is the ERIC file of DIALOG Information Services, Inc. (**DIALOG ERIC**). This online version is offered in the reference component of the Blagg-Huey Library by trained search specialists to patrons for a fee based on costs plus a small service charge. A search specialist generally interviews the patron in order to identify the search topic and any associated parameters. Depending on many search and service variables, any given search can be in the patron's hands after thirty minutes or after five working days (for offline or remote search requests where a large number of prints are involved). Average patron cost is about $8.00 per search but fees can go to $30.00 or more

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per search. This DIALOG version of ERIC includes records from 1966 to date, with access to records through a full range of state-of-the-art database search techniques. DIALOG ERIC has been available in the library from 1976 to date.

A second version of the ERIC file is the TWU-ERIC system; patrons perform searches for themselves in this system. This local system is offered through terminals, both on and off campus, which are connected to the University's DEC-20 (Pandora) computer via hard wire or telephone modem connections. Personal computer access service is also possible to patrons. Typical terminal locations include the Library, the Computer Lab, the Library and Information Studies Lab, and certain other locations. Search training is provided by the reference staff in the Library, Computer Lab personnel, and Library and Information Studies faculty in formal classes. Do-it-yourself instruction handouts, prepared by the reference staff, are also available to patrons for self-instruction. Patrons may access TWU-ERIC whenever the DEC-20 is in operation. Prints are offered through a printer linked to the mainframe in the Computer Lab area; these prints may be picked up at this location. While no fees are charged to use TWU-ERIC, a personal password must be obtained from the Computer Center or through a class instructor for one semester, with renewals as needed. Coverage of TWU-ERIC is for the latest five year period, update tapes being purchased by the Library and the installation of such tapes being processed by the

Computer Center. Only five years of coverage is feasible due to the vast computer storage requirement for all ERIC records. Operational search software was prepared locally; this search system manifests limited search capabilities to users, with re-programming not practical at the moment. TWU-ERIC has been available for approximately six years.

As of January 1988, SilverPlatter ERIC, a "laser-based" CD-ROM version of the ERIC file (CD-ROM ERIC) is available in the reference component of the Library. Three compact disks are installed in three IBM PC XT workstations to accommodate the full range of years in the complete SilverPlatter ERIC file (i.e.: 1966-1975; 1976-1982; 1983-Mar 1988, with quarterly updates). Patrons perform searches for themselves in these workstations. The reference staff has prepared instruction handouts and, most importantly, a self-instruction, tutorial program is included in the software for each workstation. No password is needed to access any of these CD-ROM ERIC systems. No fees are charged to patrons who wish to search in the CD-ROM systems. A printer is attached to each PC workstation so that copies of bibliographic records are immediately available to patrons. Because of extremely heavy user demand during most of the day and evening hours, a reservation procedure is in place so that each patron may reserve up to thirty minutes at a time; this is a reasonable amount of time in which to run most searches. The SilverPlatter CD-ROM ERIC version provides, as noted, complete coverage to the

ERIC file, from 1966 to date, with a full complement of contemporary search capabilities built into the system.

For some understanding of relative usage rates for each of these three systems, statistics are provided in the following table entitled "ERIC USAGE RATES, 1987-1988." Three columns of figures are displayed to compare search activity in the three ERIC versions. An additional column displays the total number of database searches run in all possible databases in the reference component for patrons who have requested and paid for such searches.

TOTAL NO. DATABASE SEARCHES: These searches are prepared by reference search specialists who work with the patron in order to understand the patron's search question and related needs. About forty-five to sixty minutes are required to perform such made-to-order searches. This column displays the number of all patron-requested searches, including questions in the areas of biology, business, social sciences, etc., performed by reference search specialists on a monthly basis.

NO. OF ERIC SEARCHES: Some custom search requests by patrons to search specialists are, indeed, ERIC searches. This column displays the number of ERIC searches requested of the reference component on a monthly basis; this is, then, a subset of the first column.

NO. OF TWU-ERIC SEARCHES: A statistical administrative program in the DEC-20 computer keeps track of monthly usage rates

of TWU-ERIC search activity (Other TWU-ERIC statistics gathered in this fashion are noted later in this report). This column displays the number of searches run by users in the TWU-ERIC system on a monthly basis.

NO. OF ERIC CD-ROM SEARCHES: A sign-up log is maintained at the Information Desk so that patrons may reserve the thirty-minute periods at one of the SilverPlatter ERIC workstations. This column displays the number of CD-ROM ERIC searches scheduled at the three stations on a monthly basis. Most patron interest centers on the two latest CD-ROM ERIC files because of their need for relatively current bibliographic information. Thus, these figures tend to reflect patron use for the two most current CD-ROM units; but, these reported figures do include any activity in the earliest CD-ROM ERIC file as well.

(Insert Table 1)

A basic question centers on the relative impact of SilverPlatter CD-ROM ERIC on both TWU-ERIC and DIALOG ERIC usage rates. The reader will note that a regular pattern of use manifests throughout all of the systems; i.e., search activity is modest at the start of each semester, increases and peaks during the initial part of each semester as class and research assignments are explored and developed and then tapers off toward the end of each semester. Please note that the two summer semesters seem to identify as one of the long semesters in the these statistics, for some reason.

Galloway Table

TABLE 1

ERIC Usage Rates, 1987-1988

Year & Month	Total No. Database Searches	No. Of ERIC Searches	No. Of TWU-ERIC Searches	No. Of ERIC CD-ROM Searches
1987				
January	165	32	102	N/A
February	232	81	394	N/A
March	129	45	179	N/A
April	107	34	219	N/A
May	141	33	63	N/A
June	283	112	261	N/A
July	150	62	303	N/A
August	102	19	40	N/A
September	201	55	161	N/A
October	313	89	122	N/A
November	96	26	115	N/A
December	42	9	44	N/A
1988				
January	56	6	38	168
February	146	25	27	696
March	114	13	18	930
April	94	7	22	1080
May	51	1	14	780

For all of 1987 a fairly consistent pattern seems to exist between the total number of database searches run in the reference component, the number of ERIC searches run in the component and the number of TWU-ERIC searches run in the DEC-20 environment.

But in January 1988, with the introduction of SilverPlatter CD-ROM ERIC, a significant change appears to occur in relative search activity among the DIAlOG ERIC and TWU-ERIC systems. The average number of DIALOG ERIC searches run by search specialists drops from 50 per month during 1987 to 10 per month during 1988, through May. In the DIALOG ERIC system, note that only 7 searches were run in April and only 1 search in May. The average number of TWU-ERIC searches run by patrons drops from 167 per month during 1987 to 24 per month during 1988, again through May.

While CD-ROM ERIC was not available in 1987, the average number of searches run by patrons is 721 per month during the first five months of 1988.

If we may assume that the presence of CD-ROM ERIC service contributes, in some significant part, to the marked decline of both DIALOG ERIC searches and TWU-ERIC searches during the 1988 period discussed, why should this be so?

Money is certainly part of the answer. Fees for DIALOG ERIC searches can range from $5.00 on up to $30.00 or $40.00. On average, such fees run around $8.00 per search. While these fees simply reflect actual costs passed on to the patron, why pay

directly for a search in DIALOG ERIC when you can get one or more for free? There are no fees for using TWU-ERIC but other concerns, such as search software, tend to reduce its overall effectiveness.

Search software is another part of the answer. Patrons are not trained to operate the professional, complex DIALOG ERIC system. With regard to the TWU-ERIC system, patrons are able to learn the search software package, but the inherent search techniques in this package are limiting and frustrating to many patrons who are not computer literate. For example, TWU-ERIC requires patrons to use descriptors in a proscribed manner in their search strategies; free-text searching, frequently the most productive search approach -- especially for novices, is not available on TWU-ERIC. On the other hand, CD-ROM ERIC is very "user friendly." Users can be operational on the CD-ROM units after only a few minutes of introductory guidance. They can easily call up records on the monitor and they can also easily print complete records on the adjacent printer in their workstation.

Accessibility is another part of the answer for some patrons. Patrons are not permitted to operate the DIALOG ERIC system for several reasons, operational knowledge, security and expense factors chief among such reasons. TWU-ERIC is a part of the DEC-20 Pandora computer which has only so many ports and telephone line access channels. Patrons can not always get

online when they want or need to do their work. If Pandora is down, for whatever reason, no one gets on! A break down of who actually uses **TWU-ERIC** reveals that certain individuals tend to be heavy repeat users. These individuals may have their database needs addressed with other database systems or with other service arrangements on existing systems. CD-ROM ERIC is currently available only in the library, but the reservation scheme permits most students to sign up in advance for a convenient search time. Forthcoming technological improvements with CD-ROM systems, such as a "chained" or "jukebox" scheme can greatly enhance access to a number of CD-ROM disks from one workstation. Remote access is not yet a reality for CD-ROMs.

In review, it would appear that factors such as cost-free searching, user-friendly search software and accessibility to search equipment all contribute in making CD-ROM ERIC a much more attractive system to most patrons than the **DIALOG ERIC** or the **TWU-ERIC** systems.

CD-ROM ERIC and **CD-ROM PsycLit** (Psychological Abstracts), both available in the reference component, are currently receiving a lot of attention. In the immediate future, such systems would seem to be important elements in bibliographic research in general and in library services in particular.

Systems such as DIALOG will also continue to be useful in most research environments because they contain vast numbers of records on almost every academic discipline and because there

will always be some patrons who do not have the time nor the inclination to operate such system for themselves.

TWU-ERIC, on the other hand, would seem to have a limited future for most patrons. It is accessible to patrons at all hours, when the DEC-20 is in operation, and to patrons who have access to a PC and modem. Recent usage figures indicate that most users access TWU-ERIC between 8:00 a.m. and 11:00 p.m., hours which coincide with library hours during the week; few patrons seem to be using the TWU-ERIC system on weekend days.

Also, TWU-ERIC search software is less than adequate for current search or instruction needs. While most users of TWU-ERIC tend to stay connected to TWU-ERIC less than thirty minutes, some users stay on for two or three hours, a partial indication that some inefficiencies are manifesting within the search methodologies or that users are not able to learn and use the search system in an efficient manner. Many users are, according to recent statistics, using a lot of CPU time per search. Many of these users go over ten seconds of CPU time per search, which can mean several different things. Either the users are not finding wanted materials because of difficulty with search terminologoy and vocabulary requirements or they are not adapting to the search techniques and mechanical requirements of the system. Because no fees are tied to TWU-ERIC use, some users may simply enjoy intellectual browsing through the records, but such

users are probably in a minority as most patrons appear to have specific bibliographic assignments and little time to spare.

In summation, patron demand seems to focus on CD-ROM ERIC because it is free of search costs, but not of university costs; it is easy to learn to use the system in an efficient manner; and it is relatively accessible when they need to get to it. Also, CD-ROM appears to be preferred by reference staff for several reasons. First, CD-ROM ERIC is a quality product which employs state-of-the-art search methods in a truly user friendly manner. Second, it is easier to instruct patrons in how to use it when compared with the TWU-ERIC system, which is, in addition to being awkward to use, very time-consuming to teach in necessarily small classes of three or four patrons. Third, it involves the patron in the search process more immediately as it helps patrons learn how to think out a search question more directly in the interactive mode. Fourth, it teaches patrons how to operate a contemporary information computer-based system; many patrons "love" the CD-ROM service and are appreciative of the library for providing such a "wonderful" research tool. In this regard, reference staff are teaching patrons how to fish, rather than fishing for them! Fifth, it frees librarians from the demanding, time consuming routines associated with DIALOG ERIC. It is estimated that at least three new professional reference staff would be needed to do the over 700 searches per month for patrons that the patrons are now doing for themselves

on CD-ROM units. It would seem that the inclusion of CD-ROM ERIC services has been a productive benefit for both patron and staff in the library. To reference librarians, there are many challenges associated with integrating CD-ROM services into the flow of typical reference service routines. The technology changes by the day. Maintenance of these PC systems almost requires a specialist who could be assigned to keep the hardware operational. Most of the hardware elements, especially the printers now available, are not designed for such heavy duty. With increased demand comes the problem of access for all who want to use the system when they want to use it. Supplies, especially printer ribbons and paper, are consumed by systems that have the potential to run over eighty-five hours during a normal work week. Several of these concerns are related to one another and will be addressed over the forthcoming months.

To university and library administrators, costs associated with any of these three systems can be difficult to pin down, but some major differences do appear in rough estimates.

DIALOG ERIC typically requires at least one computer-modem-printer work station ($3,000-5,000 each). Search costs are oftentimes passed on to the patron with user fees attached. The real expense is in search specialist salaries. The search specialist needs to be a professional librarian with database search skills. Using modest estimates, if such wages are estimated at $15.00 per hour, and the search specialist team runs

100 ERIC searches per month or 1,200 searches per year, staff costs can easily run over $18,000 per year for just ERIC searches. If one attempts to re-capture some or all of these salary expenses, patron use of DIALOG ERIC can be discouraged. ESTIMATED ANNUAL COST: Over $20,000 per year, after initial workstation and search specialist training costs.

TWU-ERIC, as it is presently configured, requires a mainframe computer environment with remote terminals and associated hardwire or telephone connections. Software creation expenses run at about six months of computer programmer salary. An ERIC tape subscription costs $600 per year. Annual patron training costs amount to $20,000 per year, including reference librarian training sessions and Library School faculty classes. ESTIMATED ANNUAL COST: Over $30,000 per year, after initial mainframe and programming costs.

CD-ROM ERIC workstations, with CD-ROM disk drive and printer, costs about $5,000 each. A SilverPlatter CD-ROM ERIC annual subscription costs $1,080 per year. Ribbons and paper are a regular expense, with costs varying greatly due to volume purchase discounts. Staff training is usually done by Information Desk personnel, Professional or Library-Aides, in a minimum amount of start-up training time with a few brief follow-up assists on specific problems. ESTIMATED ANNUAL COST: Less than $2,000 per year, after initial workstation costs.

Regardless of such challenges, the benefits of CD-ROM ERIC appear to make it superior to the other ERIC systems for most users on the TWU campus at this time. Concrete solutions will need to be determined for many current CD-ROM concerns as such systems become integrated into library routines, both on a local as well as a national basis. In the meantime, TWU-ERIC appears to be a dinosaur of interest to a few computer anthropologists while DIALOG ERIC service continues to be of true worth to the computer illiterate, the researcher who can not find wanted information on CD-ROMs and the professor or administrator who is tied to his or her lab or office because of time constraints and work responsibilities. With regard to information services, the charge to continue to examine the worth of such bibliographic systems appears to be at the heart of important administrative and operational responsibilities in the foreseeable future.